

In the Claims

1. (Amended) A color correction circuit having at least three color input channel processing circuits, each of said color input channel processing circuits comprising:

an adder with a corrected color channel output, a first multiplied input, a second multiplied input, a third multiplied input and an uncorrected color channel input providing for direct coupling the adder to an output of a color image sensor;

a noise reduction filter having a filter input coupled to said uncorrected color channel input;

an input channel multiplier having an input coupled to an output of said noise reduction filter, an output of said input channel multiplier being coupled to an the first multiplied input of said adder; and

at least two further multipliers ~~with~~ having inputs respectively coupled to outputs of other noise reduction filters forming part of ~~the~~ other color input channel processing circuits, one of said two further multipliers having an outputs coupled to the second multiplied input and other one of said two further multipliers having an output coupled to the third multiplied input ~~to inputs of said adder.~~

2. (Amended) A color correction circuit as claimed in claim 1, wherein said input channel multipliers ~~for a color channel~~ have coefficients that when summed together are less than 0.2.

3. (Amended) A color correction circuit as claimed in claim 1 wherein said input channel multipliers have coefficients for a color channel that when summed together are substantially zero.

4. (Amended) A color correction circuit as claimed in claim 1, wherein all said input channel multipliers for each of said color input channel processing circuit have coefficients that when summed together are less than 1.

5. (Original) A color correction circuit as claimed in claim 1 wherein said noise reduction filter is a Low Pass Filter.

6. (Amended) A color correction circuit camera having at least three color input channel processing circuits, each of said color input channel processing circuits comprising:

a color image sensor having at least three uncorrected color channel outputs;

an adder with a corrected color channel output, a first multiplied input, a second multiplied input, a third multiplied input and an uncorrected color channel input directly coupling the adder to one of the uncorrected color channel outputs;

a noise reduction filter having a filter input coupled to said uncorrected color channel input;

an input channel multiplier having an input coupled to an output of said noise reduction filter, an output of said input channel multiplier being coupled to an the first multiplied input of said adder; and

at least two further multipliers with having inputs respectively coupled to outputs of other noise reduction filters forming part of the other color input channel processing circuits, one of said two further multipliers having an outputs coupled to the second multiplied input and other one of said two further multipliers having an output coupled to the third multiplied input ~~to inputs of said adder.~~

7. (Amended) A color correction circuit camera as claimed in claim 6, wherein there is ~~comprise~~ a color interpolation module coupled to said color input channel processing circuits.

8. (Amended) A color correction circuit camera as claimed in claim 7, wherein there is a gamma correction module coupled to said color interpolation module.

9. (Amended) A method of correcting a digital color sampled signal comprising at least three color channels, the channels being a Red Channel, Green Channel and Blue channel, the method comprising the steps of:

filtering uncorrected color sampled signals on each of said color channels to provide filtered channel sampled signals;

multiplying said filtered channel sampled signals with selected coefficients to provide noise reduced signal samples of said uncorrected color sampled signals; and

adding each of said uncorrected color sampled signals to selected said noise reduced signal samples to provide a

corrected color sampled signal, wherein the coefficients when summed together are less than 0.2.

10. (Deleted)

11. (Amended) A method of correcting a digital color sampled signal as claimed in claim 9, wherein said coefficients ~~for each said channel~~ used for said multiplying when summed together are substantially zero.

12. (Original) A method of correcting a digital color sampled signal as claimed in claim 9, said method being further characterised by performing the following expression:

$$\begin{bmatrix} R_c \\ G_c \\ B_c \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} R \\ G \\ B \end{bmatrix} + \begin{bmatrix} c_{11} & c_{12} & c_{13} \\ c_{21} & c_{22} & c_{23} \\ c_{31} & c_{32} & c_{33} \end{bmatrix} \begin{bmatrix} \overline{R} \\ \overline{G} \\ \overline{B} \end{bmatrix}$$

Wherein, R_c , G_c and B_c are respective color corrected samples of the uncorrected color sampled signals R, G, B ; $\overline{R}, \overline{G}, \overline{B}$ are respective filtered channel sampled signals of the uncorrected color sampled signals R, G, B ; and C_{11} to C_{33} are the coefficients with values less than 1.

13. (Original) A method of correcting a digital color sampled signal as claimed in claim 12, wherein the coefficients C_{11} , C_{22} and C_{33} are positive.